

Life quality and health status correlation in hemodialysis patients with end-stage renal disease from Ahvaz University of Medical Sciences Affiliated Hospitals, 2012

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Abstract

Introduction: Hemodialysis treatment process in patients with chronic renal failure affects the patient from clinical, psychosocial and economic aspects. Today, life quality is considered as the main indicator to assess the health status. The purpose of this study was to determine the correlation between life quality and health status in hemodialysis patients with end-stage renal disease.

Materials & Methods: A descriptive correlational study on 122 was conducted for hemodialysis patients using simple random sampling. The instrument used is a questionnaire consisting of three-parts of demographic information, quality of life (SF-36) and health status. Data were analyzed by pearson correlation coefficient and paired t-test with SPSS, ver 17.

Results: The lowest mean for scores obtained from the aspects of health status belongs to the physical aspect. The majority (53.4%) received a poor score for health status. In addition, the mean score of life quality in patients was 46.85. Life quality had a significant relationship with the physical, psychological and social aspects of health status however, it did not show any significant relationship with the medical and economic aspects. Furthermore, its correlation with the physical and psychological aspects is more than other aspects. Life quality ($r=0.76$) and general health status ($p<0.01$) showed also a strong correlation.

Conclusion: Life quality and health status correlation demonstrated that patients' attitudes towards themselves are affected by the health. Having a useful life, that is, in addition to the physical impairments caused by chronic renal failure and hemodialysis, the patient's psychological structure and social environment can affect their motivation and life expectancy.

Keywords: Quality of life, Health status, End-stage renal disease, Hemodialysis.

Introduction

Chronic diseases are being discussed as a fundamental problem that affects the area of health. People with chronic diseases have to change their role, and alter from normal persons with a normal life to individuals with a permanent disease, who are always looking for health and care services. Patients with end-stage renal among other chronic diseases must be permanently cured by treatment methods such as hemodialysis to avoid uremia (1). Studies on life quality and

health status provide comprehensive and accurate means to disseminate the information on the diseases and treatment effects in the community.

In addition, the use of studies on the quality of life in clinical activities can help to improve clinical performance, by proposing changes in treatment and life-lengthening factors (2). Quality of life is a multidimensional concept. Therefore, it must be examined from different angles. Life quality measuring is important in a

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wide range of decisions, from medical and clinical issues to social aspects. One of the concepts that are severely distorted in hemodialysis patients is the concept of health status (3).

Health is a common theme in many cultures. Virtually, every community has a specific concept of health as part of its culture. Thus, anyone defines health according to his/her own norms and values; and a single definition can never be given for health.

Today's, health concept varies from one person to the another and its level is determined by everyone himself/herself conception. Life quality is one's own sense of health (as satisfaction or dissatisfaction) which is a crucial aspect of the life of individual. Thus, the health status can be evaluated as an important determinant of life quality (4).

The health status and quality of life are concepts that have attracted much attention in relation to hemodialysis patients with end-stage renal disease. Several researchers have also examined it from different perspectives. For example, the study conducted by Tell et al. in Tehran pointed out that the mean score of life quality for hemodialysis patients and healthy subjects were 42.41 and 56.42, respectively (5).

In another study conducted by Paraskevi in Greece, it was found that hemodialysis patients have a lower quality of life from social and environmental aspects (6). Thus, the end-stage renal disease, on the one hand, affects the perception of health (which can be verified only by a self-report instrument) by lowering the quality of life, and on the other hand, it directly affects its negative

effects by distorting the real indicators of health.

It should be noted that the quality of health-oriented life is a very broad concept that is influenced by various aspects; and self-concept can be evaluated only as a factor that is in bilateral contrast to the quality of life. Researchers showed an increasing attention towards the fact that an individual is the only authoritative reference to evaluate his/her health status.

The life quality is based on people life experiences, and can be evaluated primarily on the basis of personal evaluation of their own life experiences. Since different people value different things, personal judgment is a determining factor. As a result, a particular disability that makes life impossible for one person may be considered only an inconvenience for another person. Therefore, there is no single definition for life quality, which can be experienced in a similar way under certain conditions by all people (7).

Patients' attitudes towards themselves should be considered for a correct health status assessment. This attitude can be examined in the form of life quality concept. It should be noted that the patient was a patient since the beginning, but he was a person with experience, ideals, norms and values of a healthy individual.

With the outbreak of the disease, his/her self-concept has been greatly damaged. The current knowledge about himself/herself includes a set of previous values and ideals along with current limitations and changes.

As described above, this study was conducted to determine the relationship

between quality of life and health status in hemodialysis patients.

Materials and Methods

A descriptive correlational study was conducted to examine the relationship between life quality and aspects of health status in hemodialysis patients from Ahvaz University of Medical Sciences affiliated hospitals in 1391.

A total of 246 patients attended the dialysis units of the university-affiliated hospitals, from whom 122 patients were finally selected with the confidence levels of 0.95 and $\alpha=0.05$ based on simple random sampling method after observing the criteria for inclusion and exclusion.

Inclusion criteria were: a minimum of 25 and a maximum of 65 years of age, having a history of kidney transplant, at least a period of one year of treatment with hemodialysis (three times per week on an ongoing basis), the ability to answer questions in terms of physical status, fluency in Farsi, having written consent and the ability to read and write and exclusion criteria was having chronic disease that is related to renal failure process.

The instrument used for data collection was a questionnaire containing three parts. The first part included questions about the participant's demographic characteristics. The second part included the quality of life questionnaire SF-36. The third part included the health status questionnaire.

This instrument is the most reliable tool to assess the life quality in accordance with previous studies; and its validity and reliability have been proven repeatedly in several studies in different parts of the

world, including Iran (8-11). This instrument examines various aspects of health related to life quality.

These aspects include social performance, role limitations due to physical problems, pain, psychological health, role limitations due to emotional problems and a general understanding of the overall health. Questions were graded using Likert scale.

Given the variety of instruments used to study the health status and their focus on specific aspects of health in this study, a researcher-made questionnaire was used to examine most of variables and aspects of the health status.

To prepare the questionnaire, the resources available in the field of physical, psychological and social disorders of hemodialysis patients were used, and some articles were reviewed (1, 4, 12-14).

The final instrument consisted of 45 items that were set in the physical, psychological, social, economic, medical aspects, and examines variables using Likert scale.

To determine the validity of this instrument, content and face validity were examined as follows: First, the instrument designed to assess the content validity and it was presented to 10 experts; 5 nephrologists and 5 faculty members having work and education experience in hemodialysis units; and their corrective comments were applied to the instrument. To check the face validity, the instrument was then presented to 10 hemodialysis patients who were randomly selected; and the shape and form of the items and their ambiguous points were amended and revised.

To determine the reliability of the instrument used for examine the health

status, two methods of internal consistency and test-retest were used. Internal consistency was achieved with 0.89 by calculating the Cronbach's alpha for the instrument used for study health survey. Pearson correlation coefficient was calculated at 0.89 in the test-retest for the instrument.

By referring to hemodialysis units in the teaching hospitals of Ahwaz University of Medical Sciences in all shifts, the researchers asked the random patients to complete questionnaires, by taking into account the inclusion and exclusion criteria of the study, giving the necessary explanations to them and obtaining their informed consent. Finally, data from this study were analyzed using descriptive statistics (mean, median and standard deviation), pearson correlation coefficient and paired t-test, with the help of SPSS statistical software, version 17.

Ethical considerations

Permission was obtained from the Ethics Committee of Ahvaz's Jundishapur University of Medical Sciences followed by, the study was conduct by researchers.

Results

Of the 122 hemodialysis patients who participated in the study, 65 were male and 57 female. The patients were aged 25 to 65 years (mean age of 56 years), most of them were married (57.3%) with education of diploma degree (47.2%), and majority (40.8%) had a duration of 2-5 years of hemodialysis treatment. In addition, the highest number of participants was

housewives (36%) and those who lost their jobs (31.7%).

The results showed that the lowest mean of the scores obtained from the aspects of health status belonged to the physical aspect ($33.1 \pm 7.49\%$). Subsequently, the social ($35.2 \pm 6.21\%$), psychological ($39.5 \pm 5.75\%$), economical ($44.6 \pm 6.79\%$) and medical ($51 \pm 5.22\%$) health status were in the next ranks (Table 1).

The majority of cases (53.4%) were rated poor on health status; and only 5.5% of the participants earned good scores, and 1.9% rated very good. The average percentage of scores obtained from health status among subjects was equal to 40.14 ± 10.04 (Table 2). Patient gender, occupation, employment status, and income showed a significant correlation with health status, while there was no significant relationship between health status and level of education, marital status, age and duration of treatment ($p < 0.05$).

The findings showed that the mean score of life quality in hemodialysis patients was equal to 46.85. The lowest scores are related to general health (38.27 ± 22.7) and after that to psychological health (43.43 ± 25.7), and social health (44.12 ± 20.5) (Table 3).

As Table 1 shows, the life quality has a significant relationship with the physical, psychological and social aspects of health status, but it does not show significant correlation with the economic and medical aspects of health status. Furthermore, its correlation with the physical and psychological aspects was higher than that with other aspects. In addition, the life quality showed a strong correlation ($r = 0.76$) with general health status ($p < 0.01$).

Table 1: Mean, standard deviation and coefficient of correlation between the scores obtained from different aspects of health status

Aspects of health status	Physical	Psychological	Social	Economical	Medicine and medical	General health status
Mean±SD	33.1±7.49	39.5±5.75	35.2±6.21	44.6±6.79	51±5.22	70.34±25.20
Correlation coefficient	* 0.71	*0.69	* 0.59	* 0.58	* 0.33	1
Correlation coefficient of quality of life	*0.73	* 0.67	* 0.55	0.18	0.12	*0.76

* Significant

Table 2: Distribution of absolute frequency and relative frequency of the study units, based on the percentage of scores obtained from health status

Score obtained from health status	Number/Percentage
Less than 20 (very poor)	9 (7.6)
40-20 (poor)	65 (53.4)
60-41 (medium)	39 (31.6)
80-61 (Good)	7 (5.5)
100-81 (very good)	2 (1.9)
Total	122 (100)
Mean±SD	40.14±10.04

Table 3: Percentage of scores in different domains of life quality

Different aspects of life quality	Score±SD
Physical performance	55.8±21.2
Role limitation due to physical problem	44.65±23.4
Physical pain	51.76±24.3
General health	38.27±22.7
Happiness	45.44±19.5
Social performance	44.12±20.5
Role limitation due to mental problem	51.32±23.6
Mental health	43.43±25.7
Total mean	46.85±21.2

Discussion

In this study, life quality was assessed as a identified concept, besides the important aspects of health. This means that the life quality was chosen as a holistic concept that covers patients' attitude towards themselves from various aspects.

The results indicated that the lowest mean of health status aspects belonged to the physical feature. Subsequently, the social, psychological, economic, and medical health statuses were followed in the next ranks. This means that the physical, social problems and disease complications are mostly responsible for the poor health of hemodialysis patients.

The results of this study are consistent with the studies of Vázquez et al. in Spain (15), and Cleary and Drennan in Ireland (16). The relatively high scores of medical aspect indicates that patients were almost satisfied with hemodialysis units' services, and have found a good ability adapting to a specific diet, drugs supply and tolerance of complications.

In addition, the findings showed that life quality is mostly correlated with physical aspect of health status. As previously mentioned, the dialysis can affect the whole life and its principal pivots, and provides an unpleasant disease-like sensation of the body for the patient.

Decrease or loss of urine, food and liquids deprivation, increase or loss of weight, and permanent pipes may be contrasted with the mental image of the patient. Besides, the reduction of physical energy, changes in sexual activity, changes resulting from surgical procedures, osteoporosis and

persistent fatigue all affect the patients' attitudes towards themselves.

In their study, Rocco et al. also reported a significant correlation between life quality and physical aspects, but it was of secondary importance, after the psychological aspect (17). Previous studies (3, 13) also considered physical health problems as the main cause of the poor life quality, as the results of this study confirm. In current study, the social health status also has a lower score than that of psychological health.

This finding is consistent with Bele et al. study in India (18), but inconsistent with Cleary and Drennan study in Ireland (16). This may be related to the lack of community-based nursing care, poor performance of supportive communities and counseling circles for patients, as well as too much focus on medical and physical therapies.

The importance of psychological aspect of health in the overall life quality of hemodialysis patients means that the patients who have a better quality of life are those who experience fewer psychological problems (e.g. depression and anxiety) and they do not consider serious nature and consequences for their disease; and also, have good sources of social support (19-20). In this regard, Pareles Montilla et al. assessed psychological factors were effective at lower levels of life quality in hemodialysis patients, and stated that depression is the main factor, and that other important psychological factors include anxiety, methods of passive coping with stress, feelings of helplessness and self-surrender (12). The results of this study also

showed that the psychological health of the patient undermines, so that after physical and social aspects, the lowest score was obtained from the psychological aspect of the health status in hemodialysis patients. Alternatively, after general health, the lowest score was obtained from psychological health in the results of studying quality of life.

Additionally, the relationship between life quality and psychological aspect of health showed a significant correlation which is consistent with Turkmen et al. study in Turkey (21).

Another point is the high closeness of the scores obtained from psychological and social aspects in the both instruments. This explainable and predictable relationship has been emphasized in other studies (1, 7, and 22).

This can be considered because of the direct and mutual impact of social contributions and supports on psychological needs such as self-concept, confidence, hope and happiness. In Eastern countries, due to the greater importance of the family circle, the care and support by families and small social groups in them, need to community health nursing cares is more basically felt in the life of hemodialysis patients.

Finally, the significant correlation between life quality and health status showed that to further explain the concept of health-oriented quality of life, a general attitude of patients towards themselves, with a holistic view, affects their thought of the health and having a productive and fruitful life. In the other hand, in addition to physical disorders caused by chronic renal failure and hemodialysis process, the

psychological structure and the social environment of patients can affect their motivation and life expectancy.

Nowadays, the concepts of health and life of quality overlap with each other; and the closeness between two concepts makes closer their operational definitions.

Due to the multifaceted nature of the concept of health or multilateral communication between all aspects, a holistic approach in nursing can draw the most practical perspective from hemodialysis patients.

Adaptation of hemodialysis patients to new conditions of life involves several steps that differ in patients; and mental conditions and problems that recently happened to them, were the factors that could have an impact on patients' answers to questions, but they were not considered in this study.

Conclusion

In conclusion, a significant relationship was found between life quality, physical, psychological and social aspects of health status, but this relationship was not confirmed for the medical and economic aspects.

This information can lead nurses to a more accurate and more efficient caring approach, especially in both psychological and social aspects. Providing specialized psychiatric nursing care along with clinical care during hemodialysis and psychological counseling, as well as helping patients to identify their abilities (in spite of the disease and treatment) can help patients to cope better with life changes, and will alleviate their negative attitude towards themselves. Furthermore, conducting similar studies in

other parts of the country will show a clear picture of the health status and life quality of hemodialysis patients; and the results can contribute, in an applied manner, to this growing group in the country in the planning of health services.

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